

ROCKS and MINERALS

Official Journal
of the
Rocks and Minerals
Association



A Magazine for
Mineralogists,
Geologists and
Collectors

BUY WAR BONDS...



*And the Star Spangled Banner
In triumph shall wave,
O'er the land of the free
And the home of the brave.*

JULY, 1945

25c

Vol. 20, No. 7

Whole No. 168

Streamliner **DIAMOND SAWS**

Streamliner Diamond Saws, were tops before the War, during the War, and after the War. No Diamond Saw will ever be built at any price to out perform a "Streamliner".

What you get when you get a new Mark V plus X "Streamliner".

A Saw that needs absolutely no breaking in, a 12" diameter for instance that will now cut with efficient operation not 2000 Sq. Inches, of assorted materials, but will readily cut 3000 Sq. Inches.

This 12" diameter will saw at the rate of from 2 to 3 Square inches of Agate per minute. It will cut Quartz Crystal at 5 Square Inches per minute. Every Saw guaranteed for performance. Prices as follows, 6" — \$5.50, 8" — \$6.50, 10" \$7.50, 12" — \$8.50, 14" — \$11.00. State Arbor hole size. Postage and Insurance 25c.

WILFRED C. EYLES

**THE ENCHANTED PUEBLO
BAYFIELD, COLORADO**

ROCKS and MINERALS

PUBLISHED
MONTHLY



Edited and Published by
PETER ZODAC

July
1945

Contents For July, 1945

CHIPS FROM THE QUARRY	306
COLLECTING OVERSEAS. PART 2. (CORSICA AND ELBA). By Cpl. R. T. Howard	307
PYROMORPHITE FROM THE LITTLE GIANT MINE, IDAHO. By Charles O. Fernquist	312
SKAGGS SPRINGS CURTISITE. By T. Orchard Lisle	313
STIBNITE CRYSTALS IN ALASKA	314
CALIFORNIA'S NEW WORLD RECORD HOLE. By Omar Cavins ..	316
PEQUEA SILVER MINE OF PENN.	319
CHICKIES ROCK, PENN.	319
AN APPEAL TO EVERY AMERICAN AND CANADIAN MINERALOGIST	320
TRAIN PASSES NOTED LOCALITY	321
ATTRACTIVE MOLYBDENITE FOUND IN UTAH	321
ALBERT KARLSSON-YGGER (Obituary Notice). By Peter Zodac	322
A ROCKHOUND MAKES GOOD	323
EMERALD MINES OF SIBERIA	323
CACOXENITE AT BEARTOWN, PENN.	323
A MARINE CAVE ON CORSICA	324
BURRA BURRA MINE OF SOUTH AUSTRALIA	324
FAMOUS NEW JERSEY QUARRY ABANDONED	324
HOLLANDITE FIRST FOUND IN INDIA	324
MICA AND CORUNDUM, SOUTH AFRICA	324
CLUB AND SOCIETY NOTES	325
WITH OUR DEALERS	327
AXINITE FIRST FOUND IN GERMANY	328
FINEST SPERRYLITE FOUND IN SOUTH AFRICA	328
SPA, BELGIUM	328
INDEX TO ADVERTISERS	356

Entered as second-class matter September 13, 1926, at the Post Office at Peekskill, N. Y.,
under the Act of March 3, 1879

Copyright 1945 by Peter Zodac

Title registered in U. S. Patent Office

Special written articles (as contributions) are desired.

Subscription price \$2.00 a year; Current numbers, 25c a copy. No responsibility is
assumed for subscriptions paid to agents and it is best to remit direct to the Publisher.

Issued on the 1st day of each month.

Authors alone are responsible for statements made
and opinions expressed in their respective articles.

ROCKS and MINERALS

PEEKSKILL, N. Y., U. S. A

The official Journal of the Rocks and Minerals Association

CHIPS FROM THE QUARRY

GIVING FROM THE HEART

By ARTHUR MONTGOMERY

News of the wanton destruction of the Liege Museum with its priceless mineral collection has been a shock to mineral lovers everywhere.

The Buttgenbach collection of unequalled radium minerals and the Ungemach collection with its priceless representation of early French localities were but parts of a great collection which, for uniqueness of rare species and type material as well as for general excellence, was one of the world's finest. Now it is all gone—nearly completely destroyed by the Germans.

Picture what a similar happening would mean to us if our National Museum collection were suddenly to go up in smoke. Picture what it would mean to British collectors if the British Museum collection were to be blotted out for all time. Picture on a smaller scale, but similarly, what it would mean to any one of us to lose our own beloved collections.

For the Belgian people who cherished and loved this lost collection, there is only one ray of hope in the depths of their bereavement. It is the sponsoring by the Council of the Mineralogical Society of America of Dr. J. D. H. Donnay's project to help restore something of the Liege collection by securing gifts of fine specimens from museums, universities and private collectors all over this country. A committee has been appointed, with Prof. Charles Palache as Chairman, to carry out this project. The Belgian American Educational Foundation has offered to pay the costs of transportation from storage points to Liege, and Dr. Toothaker will store gift material at the Philadelphia Commercial Museum.

This is a most worthy project, possibly one of the worthiest ever attempted by mineral-minded people anywhere. Far too often matter-of-fact science is removed from altruism and self-service and matters of the spirit.

Some may ask, Why should I be concerned with the Liege collection? This sounds like the old isolationist ideas of letting the rest of the world fend for itself.

Thank God, we now have hopes of a different spirit and different way of life from that! It is the essence of what the fighting, the blood, the death are all about. For humanity comes first, whatever it is and wherever it is, and a good and peaceful world will rise again out of the present ashes only, and solely, through more love in our hearts and more help in our hands for fellow-men everywhere.

It seems to me very little to ask of each one of us who has a love for minerals, that we donate a few fine specimens to the people in Belgium who have lost so tragically their national collection. And, needless to say, the gift must be worthy of the cause; it will not help to say, Well, I have a couple of old duplicates that are not much account anyway. The gift will really do its good *only* if the material is something of which any collector can be proud.

I do believe most deeply that even beyond the gift is the manner of the giving. The expression, Give until it hurts, means just that. And for every one of us who will have the courage to say, This I am giving even though it is irreplaceable and one of my very finest specimens, there will be the inner satisfaction of knowing that along with the gift has gone much more than in ordinary giving. For giving until it hurts to someone in need is, after all, one of the basic tenets of Christianity. Such gifts will not only help restore a fine and worthy collection for the Belgian people, but also along with them will go something of the heart and hand of the giver. If in our abundance we American collectors cannot give

(Continued on page 321)

ROCKS and MINERALS

PUBLISHED
MONTHLY



Edited and Published by
PETER ZODAC

July
1945

Vol. 20, No. 7

The Official Journal
of the
ROCKS and MINERALS
ASSOCIATION

Whole No. 168

COLLECTING OVERSEAS. PART 2 (CORSICA & ELBA)

CPL. R. T. HOWARD 32345721

5th Ord. MM Co. APO 464

% Postmaster, N. Y., N. Y.

Isle de Corse, the beautiful island of Corsica! I had heard a lot about this Mediterranean Island, not just as the birthplace of Napoleon, but for the setting of so many Dumas stories, and because of its insurgent and fiery history. Corsica, for scenic beauty, is in my opinion, unsurpassed. Its mountains, valleys, gorges, waterfalls, and caves are really something to see. When we were enroute to Corsica the thought uppermost in my mind outside of military duties was of course . . . minerals. But, as far as I had read, there was absolutely nothing to be had. So I wasn't too happy going there. Things turned out very differently, however, and it proved well worthwhile on many a field trip.

When we first landed around Bonifacio we could see the peculiar limestone formations, while still miles out at sea. They were layer upon layer, extending up from the water for some 250 feet, and large black splotches which turned out to be the entrance to huge caves. Our immediate concern, however, was pushing north and so I had no time to explore or even to grab a quick sample. After a few days travelling, we arrived at our destination and set up our equipment. It wasn't long after that I got my first pass and went around inquiring for mines, quarries, etc. I didn't have much luck and had about given up. In the meantime, the French were pushing against Elba and after a 4 day battle had completely taken the Island. That is what I was waiting for! The next pass I went

down to the U. S. Navy base and inquired of some Officers about my getting over there. They had been doing patrol duty and mine-sweeping around Corsica at the time. They said they were sorry they couldn't take the responsibility . . . back at the Red Cross I met a few sailors and told them my plight. One of them, Arthur Horn of New York City, was sure he could help me out. About a week later, I was called to the phone, it was Horn. He said his ship was making a trip over, and he had spoken to his skipper about taking me along. It was OK. This was about 7:30 A. M., now all that was necessary was to get my CO to say yes . . . which he did.

Trip to Elba

Ordinarily a trip in a P.T. boat would have been but 20 minutes, there were mines, however, and we had to follow a set course. This took almost two hours. As we approached Elba, we could see a small island about 300 yards off its coast. It rose out of the sea some 40 feet, it is about 2 miles square and perfectly flat. In contrast to Elba, it was very striking and queer, the parent island being extremely mountainous. I myself cannot account for it. If anyone knows about this oddity this author would appreciate an explanation. We sailed between Monte Cristo and Elba going half-way round the latter before putting into port. We saw a good many mines, probably iron, while cruising around but they looked as though they had been damaged a good deal.

After landing, I was told to be back by a certain time and had only 4 hours to get what I was after. I spoke to some natives and was told it was a 3 hour walk to the nearest mine. A man offered to row me to one but said the round trip would take 4 hours — Oh, fine! All the trouble it took getting here and now not enough time to explore in . . . I figured a place noted for its fine crystals would have someone who had collected a few choice specimens. Having brought food to eat and things to trade, I made it known just what I was after. Of course by this time a small crowd of about 25 people had gathered around. The population of the town incidentally is about 300.

A woman came forward holding something wrapped in a newspaper (German at that). She tore the paper off and there was a flower pot about 8 inches in diameter completely studded with superb crystals of pyrite, hematite, calcite and quartz. The cement that held them in was sprinkled with biotite, it was beautifully done. I was so excited, I almost snatched it from her, we made a trade immediately. Then the crowd caught on. Half of them went scurrying off to dig up family heirlooms. The rest followed me into a place that would liked to have been called a "Cafe" or even "Bar".

I ordered a glass of vermouth which cost 21/2 francs and what a surprise . . . It wasn't diluted! In a couple of minutes people started pouring in. There were children, men and women, both young and old, with their hands, pockets, bags and boxes of every description full.

They milled around shouting trying to get me to look at what they had to offer. Each time I'd take a specimen, examine it, they would be quiet till I either traded for it or not, then they would start shouting again. Naturally everything proffered wasn't of value and some of the kids I think just picked up stones along the way. Aside from being extremely profitable in the excellent minerals obtained, the author had lots of fun. Other than a walk around the town, the whole afternoon was spent trading.

This certainly was a unique way to collect minerals, somehow I don't think it would work in the States. Elba, as you know, is noted for its large and beautiful crystals of pyrite, marcasite, tourmaline and hematite. One other article like the flower pot was obtained, it was a circular Holy picture. The picture itself is about 2 inches in diameter and the frame about 6, completely studded with the afore-mentioned crystals.

I believe those and a number of large, plain and striated pyrite crystals were the best of all. I hated to leave the island after that display, it would have been nice to visit all the other towns. I hardly expect to get back there again, although several further attempts were made.

Collecting on Corsica

Sgt. King, who is an enthusiastic collector now, noticed that when I had a pass, a hammer, chisel and sack invariably accompanied me. He asked me about it one day not long after the Elba expedition; well, that was all I needed. I started talking mineral collecting and mineralogy to him. It must have been a good sales talk because he asked to accompany me on my next trip. That was all right with me — first Sgt. or not, anyone showing the slightest interest in my hobby was *more* than welcome. The first trip we made together, an outcropping of quartz was discovered, and it was a honey.

The specimens showed a single termination, and very good cleavage. They were fairly large from one to three inches. Pieces of crystal were found that if reconstructed would have measured approximately three inches across and eight inches long. This find was like a shot in the arm to us both. King's interest was greatly increased and mine was rejuvenated.

Antimony Mine on Corsica

On the way back to camp we asked if there were any mines in the vicinity and lady-luck was with us again . . . there was an antimony mine close by. After a little riding, the place was found, it was a small mine by the name of "Luri", digging stibnite. We rummaged around the dumps but found very little. There

was a sorting room, a large building, and in it could be seen good samples lying on the table but it was boarded and locked. The people in charge were located and permission was obtained to enter the sample room and laboratory.

We got some good crystals of stibnite and in the laboratory there was a block of granite with black spinel all throughout. The woman saw our interest in it and said we might have it. We traded some candy for it. Unfortunately the exact location of this sample is not known. Our real luck came when we spied a geological map of Corsica (in French) on the wall. It gave the names of mines, what was mined, and the towns near it. Notes on this were hurriedly made and we went back to camp to gloat and plan our next trip.

King must have done a lot of talking for the next time we went out one of the Lieutenants wanted to go with us. Oh, well! Who are we to be class conscious so along he came. Joking aside, though, he is a pretty good apple. It is he who we have the thank for allowing us to make a special trip back to Bonifacio.

Asbestos Mine on Corsica

The trip, however, wasn't too profitable. We stopped at the quartz outcropping and then back to the Luri mine, but as mentioned our luck was bad. A check was made on the map again and more definite information was found. The following week a trip was planned to look for the Argentello mine (silver and lead mine) on the opposite side of the Island around Calvi. Instead of crossing the mountains, we took a road that led around the northern tip at Cap Corse. The scenery was beautiful, long winding roads, (not too good) following the contours of the island. One could look out across the water and see the islands of Elba, Monte Cristo and Capre (not to be confused with Capri, off the coast of Naples) very clearly. We stopped at a good man-open cuts along the way but found nothing worthwhile. It seems that the northern extremities of the island is made up of serpentine schist both altered and otherwise. There is a good deal of folding and the formations are very in-

teresting. Upon reaching the other side of the island and now heading south, a great deal of mining equipment was encountered on both sides of the road, but there wasn't much around to suggest a mine; however, just around the following bend we came across the remnants of a landslide and still partially visible was a skipway. Looking up, open cuts could be seen and more equipment but what a climb. It was an asbestos mine and fairly large, although down from the road it didn't look like much. We all gathered several good fibrous samples of chrysotile, bluish-white in color. The party hunted around for associate minerals, but to no avail. There was the "L" Argentello mine still to locate so we left early. It might have been just as well to have stayed where we were for we never did find the silver mine.

I guess Lt. Slobbins was disappointed as he hasn't come out with us since. Several weeks passed before King and I could go out again, however, when a trip was arranged there were two more men interested. Sgt. Dudley Clark of Connecticut and Pfc. Ray Hajek of Texas. As it developed, they only came along for the ride.

Cardo Copper Mine on Corsica

This time it was decided to look for the "Cardo" copper mine. The only directions available were somewhere 'north-east of Bastia'. After wasting a lot of time taking wrong roads, etc., we finally came upon the small village of Cardo. A few inquiries made of the children that gathered around, and an abandoned tunnel was discovered. This turned out to be the mine. It was very old and there was evidence of several cave-ins. King and I went in first, Clark and Hajek waited till we came back. The walls were dripping and the water on the floor was several inches deep; it was necessary to mark on the wall going from tunnel to tunnel so as not to get lost.

We found some small stalactites about one to three inches in diameter of a beautiful blue-green deposit, either malachite or azurite. After gathering several samples we retraced our steps. There was another tunnel not far off but the en-

trance had partially caved in so it was decided not to investigate any further.

It was rather late in the afternoon and coupled with the fact that the other members of the party did not take to this sort of thing, we decided to call it a day.

Arsenic Mine on Corsica

About one week later, King, Hajek, Cpl. E. Johnson of Michigan, and myself set out for an arsenic mine down around Matra. For a change we didn't have much trouble finding it, but it was a gruelling ride through the mountains. In some sections half the road was washed away, there being just enough room for a jeep to squeeze through. Before we came to the village for which the mine is named, (or vice versa) a granite quarry was noticed on the hillside. Naturally it called for an investigation. The author was fortunate in finding a piece of granite with a coating of colorless crystals belonging to the triclinic system which I believe to be anorthite. What attracted me most, however, were two clusters of a greenish-black lamellar mineral each group being about one half to three-fourths of an inch long and looked like a black caterpillar with its back arched. It was discovered later that this was clinochlore, a mineral of the chlorite group. All that can be said as to the location of this quarry is that it's somewhere on the mountain road between Mammicia and Metra.

About an hour later, we arrived at the town of Metra, and as usual the kids gathered around for a bon-bon, chewing gum, etc. Inquiries were made of the mine and a chorus of Oui, Qui's and Si, Si's was received. French and Italian are both spoken here. After parking the jeep and following the kids up an old narrow gauge track about $\frac{1}{4}$ mile, we came upon the Min de Matra (Matra Mine) which mined realgar and orpiment.

It is an underground mine but it was not necessary to go into the shafts as there was plenty of material on the stock piles. Oxidation had taken place but breaking open the ore, many beautiful red crystals were found approximately $\frac{1}{4}$ to $\frac{1}{2}$ inch of realgar and its sister min-

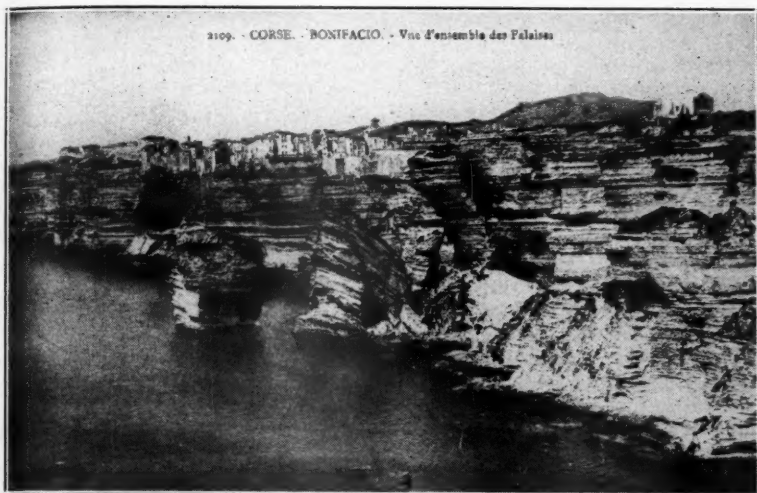
eral, yellow orpiment.

The best part of the afternoon was spent hammering away at the ore and gathering samples. Incidentally this is the only mine I had visited on Corsica that had its equipment in fairly good shape. I made a quick tour of the mill, which was small, approximately 25 tons, flotation was the principal means of beneficiation. We met a man on our return to the jeep who spoke a little English. He said he was the manager and invited us back but unfortunately we couldn't make it.

Trip to Bonifacio, Corsica

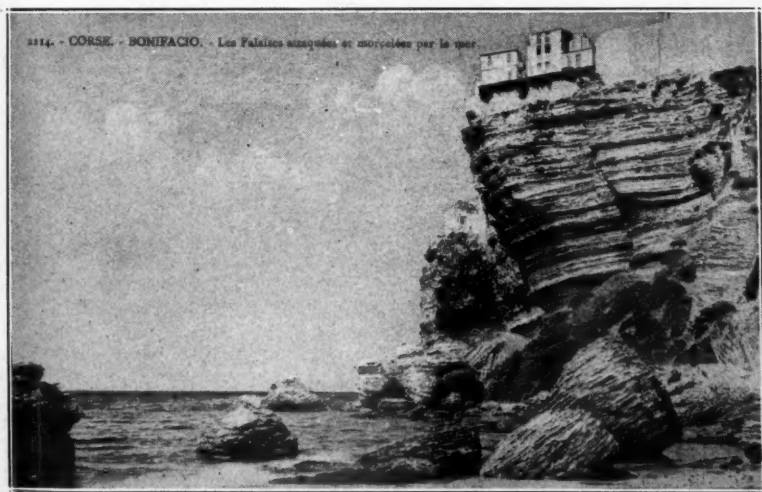
At camp word was going around that we were moving — meanwhile I had received a letter from Mr. Zodac, Editor of *Rocks and Minerals*, asking about the caves of Bonifacio and the formations of that vicinity. Our company was situated on the northern part of the island and were preparing to move. My chances of answering Mr. Zodac's queries looked mighty slim, however, nothing ventured, nothing gained . . . so I went to see our acting CO, Lt. Slobbins. He was a little leary about letting us go, seeing as how we were on the alert. After a little thought, he consented to give King and me a jeep. We were to start early the next morning, if the company didn't pull out during the night. We got up early that morning, checked the jeep and loaded it with provisions for the day. Right after chow, we started, Johnson, Hajek, King and myself. Stops were made from time to time to have a look at the open cuts that were encountered, but nothing of interest was found. We noticed, however, that from Porto Vecchio the limestone formations started and continued down to Bonifacio — that is, on the eastern side of the island. After stopping along the road to chow up, we arrived in town around 1 o'clock. The city of Bonifacio is situated up on top of the famous limestone formations, 250 feet above the sea. After riding up there and parking, the party decided to climb down over the formations to the sea.

The layers I have mentioned previously, alternated. One being a mixture of sand and limestone, another being of a more



The limestone cliffs at Bonifacio.

In about the center of the foreground are the entrances to the famous caves of the city.



A close-up view of a limestone cliff at Bonifacio. Note the houses on top.

aphanitic texture. Then there seemed to be a third type which was very coarse grained and one could distinguish in it small bits of shells, etc.

In answer to Mr. Zodac's question as to whether it is chalk or common limestone — generally speaking, I would say that it is the common or shell-type limestone.

Incidentally, the natives call it "Calcaire". After hunting around for almost an hour for directions to the caves, a man was found who used to row tourists throughout them. He told us that the

grottos, as they are called, had been used by the Nazis as submarine pens and the sabotage that resulted blocked the entrance to the caves at low tides — so we were unable to visit them at this time. I don't have to say how great a disappointment this was to us, but in spite of this set-back, we had an interesting trip.

In concluding, I would like to mention that the town is very picturesque — although a little dirty. This I attribute partially to the war. The chief building material, naturally enough, is the limestone.

PYROMORPHITE FROM THE LITTLE GIANT MINE, IDAHO

By CHARLES O. FERNQUIST

Spokane, Washington

Pyromorphite is a lead phosphate, generally of a green color. One of the chief localities in Idaho for the mineral is the old abandoned Little Giant mine, near Mullan. This mine was worked for galena 40 or more years ago, in attempt to develop a lead-silver mine.

In 1935, Arthur Cooper, of Kellogg, Idaho, and I visited the old mine which is reached by a very poor trail from Mullan. This trail terminates at the adit of the mine which extends into the mountain in an easterly direction at an elevation of about 4,750 feet on the east side of Silver Creek, a small stream, a tributary of Boulder Creek which empties into the South Fork of the Coeur d'Alene at Mullan. It was almost impossible for us to see the old trail as it was overgrown; it was also a very steep climb, nearly straight up from Mullan. After a most laborious climb we finally succeeded in reaching the old abandoned mine.

There were several small holes on the mountain besides the adit (a tunnel in the vein which in this case consisted chiefly of coarse crystalline white barite). At the adit entrance there was a rock pile consisting chiefly of barite, many specimens of which contained galena.

Going into the adit we found an inclined winze, a short distance in on the right, that was sunk about 80 feet. Here we found some specimens of pyromorphite. Then we decided to prospect the

underground workings further.

Some distance in, the adit turned at right angles to the left but at this point it was nearly filled with rock and we had to crawl on our hands and knees to get over it. When we got over the loose rock we were able to walk to the end of the adit.

Just beyond the pile of loose rock in the adit is where we found the best specimens of pyromorphite. We collected all we could carry and then decided to leave for home. When we got out of the mine it was dark and we had lots of trouble in getting down the mountain. We arrived in Kellogg about midnight where Mr. Cooper left me, and from there I drove back to Spokane, alone.

The pyromorphite occurs in the Little Giant mine as small green to grayish or brownish crystals encrusting manganese-stained barite. Many specimens of pyromorphite from this mine are equal in quality to those from any other locality in the world, and are naturally in keen demand by collectors.

Mullan is in the eastern part of Shoshone County, in northwestern Idaho; in the Coeur d'Alene Mining District, one of the leading lead and silver producing areas of the U. S.

Reference

The Minerals of Idaho, by Earl V. Shannon. U. S. Nat. Mus., Bull. 131, Washington, D. C., 1926, p. 420, 444

SKAGGS SPRINGS CURTISITE

One of America's Most Brilliant Fluorescent Minerals

By T. ORCHARD LISLE

Those rockhounds who do not have Curtisite in their collection, may be interested to know that it is one of the most brilliant of all fluorescent minerals, especially under the black lamp. Its blue-white radiation is so bright that unless it is kept apart from other fluorescent specimens it will outshine and dull an entire collection. At least, this is my personal experience, so I always keep mine in a separate box.

Last Spring, I visited Skaggs Springs quicksilver mine, where there is one of the best known deposits of Curtisite, only to find that the mine had shut down and the entire plant sold at auction and carted away a few days before. This fact will possibly result in Curtisite becoming a comparative rare mineral. I do not know how long its fluorescence lasts, but the Mirabel mine (Mount St Helena, California,) dolomite containing Curtisite tends to fade after a year or two, and lose some of its brilliancy. Curtisite is termed a hydrocarbon by geologists. While I have Curtisite crystals from Skaggs Springs,

I have never seen crystals at Mirabel.

In appearance these crystals are yellow resembling sulphur; but for the most part the Curtisite from Skaggs Springs is a coating on the rock. Unless a great care is taken it will fall off, and by the time you arrive home, excellent specimens will be almost ruined. One color only shows under the lamp, contrasting with Mirabel Curtisite-stained dolomite, which has spectrum colors. The latter are greatly dimmed by contrast when placed alongside Skaggs Springs curtisite.

To the right of the old mine winze at Skaggs Springs there is a small surface working, or quarry. Looks very much like what miners call a glory hole, made in searching for new ore. On the left side of this working there is a vein of fragmented rock coated with Curtisite; but I found that the winter and spring rains have soaked through the cracks, washing away much of the fluorescent coatings. It probably will be necessary to dig deeply into dryer rock to obtain any worth while material. A friend of mine, R. F.



Skaggs Springs, Calif. The mine winze can be seen to the left and the glory hole to the right. The curtisite prospector is R. F. Henley, of San Francisco, a rockhound who has cut and polished over 1,000 cabochons out of various minerals. He is standing near the vein of curtisite.

(Photo by the Author)



*Curtisite-coated rocks photographed at night under ordinary electric light.
Note the table top.* (Photo by the Author)

Henley, who accompanied me, also did some digging; but we didn't try too hard because the ground was thick mud. This glory hole is shown in the accompanying illustration. (It was Mr. Gary of the California State Mineral Department who told me about the Curtisite vein in the obtained by making a search at night with a portable lamp, marking the best places with white paint, and returning in the morning. Yes, there is a hotel and some cabins right on the property, although they are closed for the duration.

I found the best crystallized specimens in a small rain gully about 12 inches deep and 24 inches wide near the site of the old mine office building—a hundred yards away from the glory hole. Whether or not there exists a small deposit at this point, which had been uncovered by flow of water, is hard to say for certain. It is possible that some pieces had been dropped there by the mine workers. As the rock is very much shattered, it is also possible that the pieces of Curtisite I found were part of an exposure. Time was limited and I did not dig deep.

Skaggs Springs is a resort in the coastal hills about 115 miles north of San Francisco, Calif., and about ten miles from the Pacific Ocean. Follow the main paved highway through Santa Rosa to Healdsburg; look for the road signs and turn left and go northwest about ten miles to Skaggs Springs Hotel. The road is paved all the way and in fair condition. After you have driven about six miles be sure to cross a bridge over a stream which you will see on your left. Then keep going until you reach the old hotel.

Close by are such places as Asti and Chianti as you are in the heart of the wine country. You will see them marked on the map along the main highway. The scenery around Skaggs Springs is quite lovely, and the place is famous for its mineral springs. You will pass several old manganese mines en route but on the opposite side of the river. At the hotel you will find a gate to a ranch road, the latter running between the several cottages. The gate is marked private—no trespassers. So, before entering with your car, go to the ranch house to the right of the cottages and ask permis-



Curtisite-coated rocks photographed at night in the dark under the short rays of a black, or ultra violet, bulb. Photo by the author with regular film and a kodak.

Note that the table top does not show except in one small spot in front.

sion. The mine is located about a quarter-mile up the ranch road, and you will see it as soon as you pass through a second gate. On the hill to the left is the old quicksilver smelter building.

The quicksilver is contained in the dull gray sandy-looking rock you will see lying around; but it is in such minute quantities that it cannot be seen by the naked eye. Consequently, it does not make attractive specimens for collections. However, other minerals which do make show samples are to be found at the thermal springs at this locality; but you will have to do quite a little searching. At least you can get a healthy drink!

During the past 2 years I have done considerable collecting for fluorescent minerals when visiting strategic mines on business, and believe that I managed to obtain one of the finest collections in the country. Certainly far finer than I have seen in the California State Museum at the Ferry Building, San Francisco; at the Carnegie Museum, Pittsburgh, Pa., and at the American Museum of Natural History, New York.

When business made it necessary for me to return to New York last summer (1944), I was obliged to give away over 75 lbs. of excellent fluorescent material, and take only my bookends, ashtrays, and smaller samples of the best pieces with me. One 30-lb piece I did take to Chicago for a brother rockhound. It was from Mirabel, and its fluorescence and varying colors were too remarkable to describe. But, I want to tell all collectors — whether they cut and polish or not — that fluorescent minerals add to any collection in a most interesting way.

Stibnite Crystals in Alaska

Stibnite is antimony sulfide of a lead-gray color and is the chief ore of antimony. It is sometimes found in magnificent crystals, especially in the antimony mines of Japan.

Nice acicular crystals of stibnite, associated with rock crystals, occur in gold-bearing quartz veins in the Manila Creek area of southern Seward Peninsula in western Alaska.

CALIFORNIA'S NEW WORLD RECORD HOLE STANDARD OIL COMPANY KCL-20 #13

By OMAR CAVINS, Asst. Gen. Supt.
Standard Oil Company of California
Taft, California

ABSTRACT

The author briefly reviews the drilling of this 16,246 ft. hole which was made with surface equipment planned to carry the hole to approximately 9500 feet. He comments on such special features of the operations as mud and mud handling, fishing jobs, safety and personnel. Also, he comments on the structure and lithology of the formations penetrated and concludes that we'll planned for 3 miles or more in depth can be drilled with good expectancy of success in the California Tertiary sediments with the same type of deep well surface equipment as is now in general use.

Location

This hole was drilled at the west edge of the South Coles Levee oil field 25 miles from Bakersfield on the Bakersfield-Taft highway in Section 5, T. 31S., R. 25E., M.D.B. & M., at an elevation of 505 feet. The location can be seen on the hillside about a quarter of a mile to the right side of the highway about 300 yards after passing the Kern River bridge enroute to Taft.

Depth—16,246 ft. by drill pipe measurement. Spudded July 31, 1943. Hole completed December 27, 1944. Time drilling 516 days.

Original Program

The original program called for the drilling of a well to the Middle Miocene Stevens Sand at about 9,500 ft. contemplating the use of 7 in. water string and a 5 in. liner. The drilling equipment installed was conventional deep hole equipment similar to that used for several years past at the Kettleman Hills and Greely oil fields with no thought or intention of very deep drilling.

Brief Drilling Resume

The hole was spudded with 5-9/16 in. drill pipe and a 15-1/2 in. bit through 11 ft. of 18-5/8 in. casing set at 25 ft. as a conductor pipe. At a depth of 1,188 ft., 11 3/4 in., 54 lb. casing was cemented and the hole reduced to 10-5/8 in. and with 73

to 86 lb. mud carried to 8,863 ft. where 4 1/4 in. drill pipe was added and the hole carried to 9,213 ft. where an electric log survey was run.

Coring was started at this depth with wire line core barrel in 7-5/8 in. hole.

A formation test from 9,274 ft. to 9,380 ft. showed a 375 ft. rise of drilling fluid with a trace of oil and gas.

A second formation test from 9,476 ft. to 9,525 ft. showed no favorable results.

In an attempted formation test from 9,532 ft. to 9,686 ft., the tester broke in a valve section leaving the packer and assembly in the hole. Fishing operations from November 6th to 23rd resulted in recovery of the entire fish, including packer, tail pipe, and both pressure bombs. This was the only serious fishing job.

At this depth (9,686 ft.) it was decided to stop continuous coring and drill ahead in reduced hole, spot coring at 50 ft. intervals and electric logging as seemed desirable, with formation tests upon favorable core showings and swings. At a depth of 9,998 ft., with a shoulder at 9,929 ft., another formation test was made without favorable results. Consideration was given at this depth to abandonment, but it was decided to continue, and a last formation test before abandonment was made of the interval between 9,987 ft. and 10,156 ft. The packer was loosened after jarring 40 minutes. Results of the test were unfavorable.

As the hole had already penetrated the Stevens Zone sands, productive in the nearby Elk Hills and Coles Levee fields, further consideration was given to abandonment. No favorable indications were on record and the Rio Bravo and Vedder sands seemed to be unattainable (15,000-18,000 ft.) from our regional control. Decision was made to continue drilling on the chance that an unknown productive horizon might be picked up or the Rio

Bravo or Vedder sands found higher than anticipated.

Drilling was continued in 7- $\frac{5}{8}$ in. hole depending for guidance on drilling breaks, micro fossils in cores and ditch samples, and on electric logs.

At 10,150 ft. the 7- $\frac{5}{8}$ in. hole was reamed to 10- $\frac{3}{8}$ in. and drilling was continued in this size to 10,999 ft. where the electric log was run and 7 in. casing cemented to protect the hole which was getting into bad condition. Continued drilling was with 5- $\frac{7}{8}$ in. bits and 3 $\frac{1}{4}$ in. drill pipe with spot cores taken occasionally on drilling breaks or for fossil material for the Geological Division. These cores were ordinarily taken with 5- $\frac{7}{8}$ in. core heads; 5- $\frac{3}{8}$ in. heads were used in the harder sections to give clearance for the coring head with no reaming to bottom. Out of a total of 324 bits, 64 core heads were used between 11,001 ft. and the final depth. The formations between 11,800 ft. and 14,970 ft. were very hard; required 54 rock bits to drill 165 ft. in 107 hours, or an average of 3 ft. each bit in average life of 2 hours.

The final drilling hookup consisted of 31 $\frac{1}{2}$ in. drill pipe, 94 ft. of 4 $\frac{1}{2}$ in. drill collars, a 5- $\frac{7}{8}$ in. reamer, and 5- $\frac{7}{8}$ in. rock bit and connecting substitutes. The reamer was run between the drill collars and the bit. Lifting plugs were used on the bottom 11,906 ft. of drill pipe.

The hole was seldom surveyed for deviation after landing the 7 in. casing which was in practically vertical hole.

Because of the heat in the hole and the depth, ordinary survey equipment was ineffective. With improvised equipment, readings which were not entirely satisfactory, indicated a declination of approximately 8 deg. from vertical near the final bottom. Behavior of the drilling equipment indicated no great deviation.

Precautions

No out of the ordinary precautions other than intensified supervision were used because of the depth of this hole. All bits were limited to six hours on bottom. The 31 $\frac{1}{2}$ in. drill pipe, because it approached near final depth, a safety factor of 1/5 was handled with relative

gentleness into and out of the hole.

Mud and Mud Handling

The input mud weight after setting 11 $\frac{3}{4}$ in. casing was 75 lbs. per cu ft. which had been very gradually stepped up to 98 lbs. at the conclusion of drilling. Until a depth of 13,915 ft. was reached the weight of returned mud was the same (83 lbs.) as that at the suction. At this point the salt content jumped from 30 gr. per gal. to 310 gr. per gal. at 13,390 ft. and diluted the mud. It increased to 680 gr. per gal. at 14,064 ft. and a complete change of mud from 83 to 92 lb. was made at this depth using Mojave Roger Lake weighted mud treated with pyrophosphate and quebracho.

No further difficulty was encountered and the hole stayed open in good shape though oil had to be circulated at 14,710 ft. and 15,843 ft. to loosen stuck drill pipe.

Pump pressures jumped from 1100 to 2000 Psi when the change was made from the combination 5-9/16 in.—4 $\frac{1}{2}$ in. drill stem to 3 $\frac{1}{2}$ in. and was 2300 Psi at the completion depth.

The maximum mud temperature at the overflow was 135 deg. F. We were unable to get a temperature below 14,966 ft. where it was 380 deg. F. The quality of the mud was apparently not affected by this temperature, but it was continuously circulated over the mud ladder to cool and remove the small amount of gas.

The mud into the hole was handled by a 16 $\frac{1}{4}$ x 7 $\frac{3}{4}$ x 20 pump serving as a low pressure unit and an 18 x 8 x 20 high pressure unit. A 14 x 6 $\frac{3}{4}$ x 14 pump for circulating mud over the degassing and cooling ladder and a 14 x 7 x 14 mixing and transfer pump were standbys for the low pressure circulating pump. Mud was circulated from 3 to 6 hours each time before coming out from below depths of 15,000 ft. for conditioning.

Fishing Jobs

There were all told 26 fishing jobs, 10 of which were previous to setting 7- $\frac{5}{8}$ in. casing at 10,999 ft. Of the 26, 8 were for parts of the drill stem, all previous to setting the 7 in. casing. Twelve were due to lost cutters; two to

other small junk. In addition the drill pipe stuck four times. None of these delayed operations seriously except the one at 9,686 ft. where a formation tester broke at a valve and was fished out in three pieces in 17 days. Several small pieces of junk were sidetracked or worn out with the hole 14,203 ft. deep, near disaster was averted while running $3\frac{1}{2}$ in. drill pipe. With 11,000 feet in, the pipe failed at the base of the upset of the integral tool joint box in the elevators but was caught by the slips. The detached tool joint box fell 90 ft. to the floor.

Safety

During the entire drilling and abandoning of this well there were no disabling accidents on the derrick floor and only two minor ones at the pumps.

Personnel

Because of the War induced lack of manpower, the personnel problem at the well was the most difficult routine one of the operation. Very often men worked through 16 hours. Many worked seven days per week. The brunt of the load fell on the veteran employees and only because of their loyalty and pride was the deepest hole in the world drilled.

The labor situation, though it might have been much worse, did result in increasing the time and cost of completing the hole.

STRATIGRAPHY FORMATIONS PENETRATED

The hole was started in the Tulare formation. Down to a depth of 12,800 ft. the sequence and character of the formations encountered were found to be readily identifiable and not out of line with what was anticipated from previous drilling in this part of the San Joaquin Valley. The formational contacts and other geologic markers of interest which were identified are as follows:

Type Scalez (or marker in the basal part of the San Joaquin clays formation) at an estimated depth of 3,440 ft., top of Mulinia or top of Etchegoin formation at a depth of 3,560 ft., the Pliocene-Miocene contact at an approximate depth of 6,530 ft., the top of the brown shale at a depth of approximately 8,300 ft.,

the top of the Miocene cherts at a depth of 8,640 ft., the "N" point at a depth of 8,838 ft., the probable equivalent to the top of the Stevens sands at 9,300 ft., the bentonite at 10,950 ft., and the top of the Middle Miocene at 12,800 ft.

Below the top of the Middle Miocene diagnostic fauna were very meagre and age determinations are, therefore, quite hazardous. The few fauna that were recognized indicate that the formations continued to be of Middle Miocene age, to a depth of at least 14,000 ft. It is suspected that the formations below 15,650 ft. are of Lower Miocene age. The equivalent of the top of the Vedder sand may have been penetrated at a depth of about 15,000 ft., but this correlation cannot be confirmed.

LITHOLOGY

Samples of cored material show a marked change in the density of the rocks at the depth of about 15,800 ft. At this approximate depth the bulk density jumped to slightly more than 2.6 in the brown and gray almost slaty shale and fine grain-gray sandstone. Porosities dropped from 3.4% and 2.3% at 15,539 ft. and 15,651 ft. in shales to 1.03% and 0.29% at 15,981 ft and 16,166 ft. These figures approach those of slate which 2.65 bulk density and 1.0% porosity. There was also a suggestion of flowage of material in addition to some slickensiding. These characteristics, when compared to the characteristics of rocks of the same age where found at lesser depth, suggest the result of incipient metamorphism due to loading.

STRUCTURE

The structure penetrated is an anticlinal fold. Surface dips are of low magnitude and this condition apparently persists with depth. The cored material from the greater part of the hole showed dips of $5 - 15^\circ$. Some relatively steeper dips were noted, however, in a few of the cores in the lower part of the hole. These may be the result of flowage due to incipient metamorphism. Actually there is no positive evidence to prove that any major structural change is present at depth.

REASONS FOR ABANDONMENT

Sometime before abandonment it had been decided the hole could be drilled to 16,500 ft. with complete safety to the equipment and crew. However, the dense material and 60 deg. dip recovered in the core at 16,166 ft. and the electric log taken at 16,186 ft. showed that at this location the hole had penetrated beyond reasonable possibilities of the existence of oil, so it was decided to cease drilling before the ultimate depth, safe with our equipment was reached.

LESSONS LEARNED

The principal lesson learned was that modern deep well drilling equipment, such as is being used at Greeley, Rio Bravo, and Kettleman Hills, with modern practices and competent personnel, supervision, and technical control, the drilling of wells in the Tertiary of California to depths of 3 miles and more can be done with good prospects of success.

If another well was deliberately planned for such depths, I have no doubt we could complete it in less time and at less cost. The only improvement I could recommend, however, would be a larger conductor string, say 9- $\frac{3}{8}$ in. to 10,000 ft. and a larger hole, probably 8- $\frac{3}{8}$ in. to 14,000 ft. with 4 $\frac{1}{2}$ in. drill pipe and the remainder of the hole 7- $\frac{5}{8}$ in. with 4 $\frac{1}{2}$ in. and 3 $\frac{1}{2}$ in. drill pipe. This would permit better mud circulation and would reduce the wear on the drill pipe which was very considerable on the 3 $\frac{1}{2}$ in. used in KCL 20#13.

Pequea Silver Mine of Penn.

Conestoga is a little village in southern Lancaster Co. (S. E. Pennsylvania). About 1 $\frac{1}{2}$ miles east of the village and on Pequea Creek is the old abandoned Pequea silver mine. This is an old mine, said to have been worked for silver prior to the Revolution.

A number of interesting minerals have come from this mine, some of which can be found in old collections. Among the interesting minerals known are anglesite, calamine, cerussite, galena (argentiferous), quartz (colorless crystals), rutile, siderite, vauquelinite, and wulfenite.

It would also permit the use of sturdier drilling bits in the deeper part of the hole.

STATISTICS

Number of days to complete the hole	516
Number of drilling and coring bits	623
Tons of dry mud purchased	2805
Bentonite	60 Sacks
Weighting Material	667 Tons
Tetrasodium Pyrophosphate	946 Sacks
Quebracho	106 Sacks
Electric Logs run—total ..	13
Deepest Electric Log	16,186 ft.
Bbls of water used for power	480,000 bbls.
MCF of gas for power	280,143 MCF
Number of 1 $\frac{1}{4}$ inch casing lines	16
Drill Pipe (In use final depth) (Top) 15.5 lb. I.F.E.U. (Double pin sub)	
Range 2	4,186 ft.
15.5 lb. I.E.U. Integral Jt.)	
Range 2	6,810 ft.
13.3 lb. I.E.U. (Integral Jt.)	
Range 2	5,096 ft.
All grade E or equivalent	
179 Stands	16,092 ft.
Lifting plugs were used on the Internal External upset.	
Casing Protectors used on drill pipe in 7 in. casing.	

Reference

World's deepest hole is now in California. Rocks and Minerals, March, 1945, p. 115.

Chickies Rock, Penn.

Chickies Rock is a bold rocky promontory about 170 ft. high and consists of massive vitreous white quartzite. It is a superb rock arch or anticline although broken. It is located on the east bank of the Susquehanna River, 1 $\frac{1}{4}$ miles northwest of Columbia, Lancaster Co., in S. E. Pennsylvania.

Many beds of this quartzite contain long slender round tubes perpendicular to the bedding; these tubes are worm borings called *Scolithus*.

Chickies Rock is a noted cliff much visited by geologists.

AN APPEAL TO EVERY AMERICAN AND CANADIAN MINERALOGIST

Fellow Mineralogist:

The Mineralogical Museum of the University of Liege, Belgium, was destroyed by fire on September 7, 1944, the day the Germans were leaving the city. On February 20, 1945, the Council of the Mineralogical Society of America voted to sponsor the proposal that a continental committee be established to appeal for minerals to restore the Liege Museum and appointed Charles Palache as chairman to organize the committee. It is not known at this time what damage has been suffered by other mineralogical collections in the allied countries, but the committee was instructed by the Council to seek to learn the facts and it will consider the needs of other institutions as far as may be possible.

The purpose of this letter is to launch a continent-wide drive for *mineral specimens* to be presented to the University of Liege as soon as shipping becomes available (possibly by next fall). The committee is chiefly concerned with gathering specimens and is, therefore, not soliciting funds. Money contributions will, however, be accepted by the Secretary; they will be used to cover expenses or to purchase mineralogical books and equipment.

The Belgian-American Educational Foundation of New York (Dr. P. C. Galpin, President), has kindly agreed to pay for the shipment of the gifts from America to Belgium.

Three kinds of specimens are needed: (1) display; (2) teaching; (3) research. The need may be estimated from an appraisal of the damage suffered by the museum (see Appendix). Reprints of scientific papers had better be mailed directly by the authors to the Museum in Liege when fourth-class mail service is re-established to Belgium. If other gifts are contemplated (such as books, wooden models, apparatus), special arrangements should be made through the Secretary.

How To Prepare Your Specimens: Each specimen should be carefully wrapped with its original label signed by the

donor. A catalogue filing card (3" x 5"), white, preferably unruled and punched, should be typed, giving: name of mineral, locality, size of specimen in centimeters and a short description of features illustrated, name and address of donor. If you do not happen to have such cards, please use pieces of plain, white paper of the same size. The filing cards will be assembled into a catalogue to be shipped to Liege along with the collection.

Specimens should be sent prepaid to one of the curators: Mr. Charles R. Toothaker, The Commercial Museum, 34th Street below Spruce, Philadelphia 4, Pa., U.S.A., or Dr. V. Ben Meen, Director, Royal Ontario Museum of Mineralogy, Toronto 5, Canada. The corresponding filing cards should be mailed (separately) to the same address.

In the improbable event that too many specimens of one species are received, the committee will use its discretion and offer such samples to other devastated museums where they will do the most good or, if the donor desires, will return them to him by express, C.O.D.

The continental committee would welcome the formation of local committees under the sponsorship of local mineralogical societies or geological departments of colleges and universities. Two such committees are already functioning, under the sponsorships of the Philadelphia Mineralogical Society and of the Walker Mineralogical Club of Toronto.

In conclusion the undersigned wish to express their confidence that all mineral lovers of America will want to do their utmost to make this project a success.

Charles Palache, Chairman, Harvard University, Cambridge 38, Mass.

J. D. H. Donnay, Secretary, 2926 New Road, Wilmington 165, Delaware.

Hugh Alexander Ford, Edward P. Henderson, Walter F. Hunt, V. Ben Meen, Arthur Montgomery, Joseph Murdoch, Frederick H. Pough, Austin F. Rogers, S. J. Shand, Charles R. Toothaker, R. C. Vance, C. D. Woodhouse

APPENDIX

Extent of the Damage Done to the Liege Mineral Collections

(1) **DISPLAY MATERIAL:** a) Systematic collection: 3000 specimens lost out of 4500. b) Belgian collections: 545 specimens lost out of 625. c) Congolese collection: 39 specimens lost out of 395. d) Cesaro type-material collection: Rhinnes calcites, 90 percent lost; Vesuvius and Monte Somma minerals, 90 percent lost; the remainder saved. e) Meteorite collection: saved. f) Didactic exhibits: gem collection saved; the other collections either completely or partially lost; the collections of twins and paramorphs have greatly suffered, those of alterations and associations are lost.

(2) **TEACHING MATERIAL:** A total loss. This material included 1850 specimens on exhibit, plus study, laboratory and examination sets. The igneous rocks with thin sections are lost. Wooden models: 30 remain out of about 900. Three goniometers are left out of 13; three microscopes out of 19. All the teaching aids, projector, photographic and microphotographic equipment, furnace, analytical and specific gravity balances, etc., are destroyed.

(3) **RESEARCH MATERIAL:** For research and comparison, representatives of many species are needed. Only 455 species are still represented. Some of the most expensive research equipment has been saved.

(4) **MINERALOGICAL LIBRARY:** A number of periodicals have been saved. All the books and the large collection of reprints were lost.

Giving From The Heart

(Continued from page 306)

in this way with true magnanimity and self-sacrifice, what hope is there for the establishment of any lasting cooperation and good-fellowship throughout the world? Without the certain establishment of these, then this war too has been fought in vain. Let us do our own special part to help keep that from being true. Let us all do our part!

Train Passes Noted Locality

Collectors who may take the Pennsylvania R. R. out of the Pennsylvania Station in New York City, should get a seat on the right side of a coach and be on the lookout for a noted locality after a few minutes ride from the station. For the first three miles or so the train goes through a tunnel — about a mile of which is under the Hudson River which separates New York from New Jersey — but on emerging from the tunnel the train soon goes through the Jersey meadows, a flat swampy terrain. In almost the center of this flat terrain (about 1½ miles after leaving the tunnel), a large rock mass sticks out (it would be an island if surrounded by water). This rocky mass is Snake Hill. The buildings on the top form the poorhouse for the county; the one at the base, on the left, is a penitentiary. The large quarry at the southern base of the hill — the train goes right past it — is the locality which has furnished many interesting minerals. This quarry has been abandoned many years but a newer and larger one is along the western side of the hill, near the penitentiary, and is worked by the prisoners.

The rock of Snake Hill (also known as Laurel Hill) is diabase which is used for crushed stone. Snake Hill is noted especially for its zeolites and associated minerals.

Snake Hill is in about the central part of Hudson Co. in N. E. New Jersey.

Attractive Molybdenite Found in Utah

Some of the most attractive specimens of molybdenite known are found in the lead-silver mine of Little Cottonwood Canyon; the mines are clustered about the little mining camp of Alta in S. E. Salt Lake County, of northern Utah.

Molybdenite in bright lead-gray masses and well coated with bright lemon-yellow flakes of ferrimolybdate (molybdite) are found in the mines. The combination of these two minerals form beautiful specimens for the cabinet.

ALBERT KARLSSON-YGGER**September 6, 1892 — May 14, 1945**

It is with much sorrow that we announce the death on May 14, 1945, of Albert Karlsson-Ygger, one of New York City's most noted mineral collectors. Death was sudden — within two minutes — and was due to a heart attack.

Mr. Karlsson was born on September 6, 1892, at Forshult, Sweden, the son of Erland Karlsson and Emma Margaret Nilson. He was a graduate of Oskarshamn College and Chalmers Institute of Technology, of Gothenburg, Sweden — a mechanical and civil engineer.

In March, 1922, he came to America where he made his home. On February 10, 1923, he married in New York City, Miss Ester Renstrom, of Lennartsfors, Sweden.

Mr. Karlsson became interested in minerals at an early age and visited many localities in his native Sweden. This interest was greatly stimulated by an uncle, a mining engineer, who, while stationed in foreign countries, sent young Albert many fine specimens. On coming to America, Mr. Karlsson's interest was greatly increased because he soon joined the New York Mineralogical Club, later the Rocks and Minerals Association, and traveled widely to visit localities with members. A quiet, unassuming man, Mr. Karlsson was greatly admired and respected not only for being fine Swedish gentleman but also for his collecting abilities. His knowledge of minerals was extensive and he had a good eye for fine specimens. I was with him on a number of trips and it was remarkable how Mr. Karlsson could spot fine minerals in an area where all conditions seemed to be against them. It was he who showed me, for example, where peristerite could be found in the pegmatite quarries at Bedford, N. Y.

Mr. Karlsson was very generous with his duplicates and gave away specimens to many collectors. One of my most pleasant memories of him was the gift of a very fine molybdenite specimen from the Mile



Albert Karlsson-Ygger

Square quarry, at Yonkers, N. Y. This specimen was exhibited by him at a meeting of the New York Mineralogical Club as a recent find. I was present, and being keenly interested in molybdenite, asked Mr. Karlsson, after the meeting was over, if he had a duplicate specimen from the locality to spare. "You may have this one", was his gracious reply as he handed it to me and he refused to take it back over my protests.

Although I knew Mr. Karlsson for many years, I never visited him at home and so failed to realize that he was a man of many accomplishments. Not until after his death, when I called on Mrs. Karlsson to extend her my sympathy, did I learn something of his many activities. He was an expert bookbinder and an expert cabinet maker and some marvelous samples of his work were shown me. He was a noted amateur magician who often exhibited before schools, churches and other groups. He was also a skilled craftsman. And last but by no means least, he was an inventor.

Mr. Karlsson was a member of the Chalmers Engineering Society in Stockholm, Sweden; of the American Society of Swedish Engineers; of the Swedish Geological Society; of the Mineralogical Society of America; of the New York Mineralogical Club; and of the Rocks and Minerals Association.

He had a wonderful collection of minerals, (about 2,000 specimens), also many micro-mounts and fluorescents. His Swedish collection, especially Langban minerals, was an outstanding one. Part of the collection will go to the Chalmers Institute of Technology.

Besides his wife, Mr. Karlsson is survived by four sisters and one brother, all residing in Sweden.

Peter Zodac

A Rockhound Makes Good!

Editor Rocks and Minerals:

I am submitting matter which may prove to be worth your using in *Rocks and Minerals*, inasmuch as it proves the absolute worth of our great hobby. I want to show that a man who started out polishing desert agates can climb to the top with the very best lens grinders.

Before the start of the war, for two or three years I had been cutting and polishing agates from the desert. I was a rockhound.

When the war started I entered precision lens grinding. The Government needed prisms and precision lenses. Beginning at the very bottom I have advanced rapidly. Records show that I have the highest production record of some 250 employees. This is taking into account the fact that there are many old time lens men working on the same job with me.

I was paid a bonus for suggesting a device which saves the company thousands of dollars annually. I was chosen to represent the Employees of this company on presentation of the Army-Navy E award for excellence.

The world has come to think not lightly of our great hobby. The war needed us rockhounds and I am glad to be one.

Well, anyway, I am a member of the Imperial Lapidary Guild of Imperial County, California. (also the R. & M. A.) We get back into the desert wastelands quite often where whitemen have seldom been.

L. E. Perry,
Pasadena, Calif.

June 5, 1945

Emerald Mines of Siberia

The Ural region of western Siberia is noted for many gem minerals, one of which is emerald. The first emeralds were found in 1830 by a peasant which created considerable interest among the Russians. Two years later, emerald mining in the region made its debut. Since then thousands of crystals have been recovered, many of which have been cut for gems but a large number have been distributed throughout the world to enrich collections of museums and collectors.

The emerald mines are 85 versts (56 miles) northeast of the city of Ekaterinburg (Sverdlovsk) in the Ural Mts. of western Siberia, on the headwaters of the Starka, Tokowaja, and other streams. The emerald occurs in mica schist. Other minerals found with the emerald are:

Apatite: Greenish crystals in mica schist.

Beryl (Aquamarine): Crystals in mica schist.

Berylloinite: Colorless crystals in mica schist.

Chrysoberyl (Alexandrite): Found in mica schist with beryl and phenacite. It is emerald-green in color by daylight, columbine-red by artificial light.

Garnet (Spessartite): Dark red crystals.

Phenacite: In colorless crystals of considerable size, some 4 inches long. Occurs in mica schist with emerald and chrysoberyl.

Rutile: Crystals in mica schist associated with beryl, chrysoberyl, and phenacite.

Cacoxenite at Beartown, Penn.

At Beartown, in the eastern part of Lancaster Co., of S. E. Pennsylvania, are some abandoned limonite pits. Some unusually fine cacoxenites have been found in these pits.

The cacoxenite occurs as golden-yellow tufts of radiating crystals in cavities of the limonite; strengite as grayish white translucent globules was sometimes found with the cacoxenite. Both minerals are hydrous iron phosphates.

A MARINE CAVE ON CORSICA

Bonifacio, the most southerly habitation on the island of Corsica, in a town of about 4,000 population. It is not an attractive town as its streets are very narrow and dirty. But its location is one of the most picturesque in Europe as it is situated on a bold, narrow rocky peninsula 250 feet high, and nearly 1 mile long. The steep limestone cliffs of the peninsula drop down into the sea (Strait of Bonifacio) on three sides. The town was founded in the 9th century by Bonifacio, a Tuscan (Italy) noble following a naval victory over the Saracens.

A path from the northern end of the town leads southeast to Cape Pertusato, the most southern extremity of Corsica, from which point a fine view may be had of the strait, the small islands of Cavallo and Lavezzi, and on clear days the small village of Longosardo on the Italian island of Sardinia, 7 miles away to the south. Navigation through the Strait of Bonifacio is obstructed by rocks which are favorable for the production of coral; a large quantity of excellent coral is collected here.

The main part of Bonifacio is built quite on the edge of the limestone cliffs and from the balconies of many houses it is a sheer drop of over 250 feet to the water.

The chief attraction of Bonifacio are the marine caves in its limestone cliffs. These are entered only by the sea so that a boat and a calm day are necessary for their inspection. The main cave, known as the Grotte du Sdragonato, has but one entrance from the sea. Its entrance is 16 ft. high and 10 ft. wide — inside the height reaches 100 ft. The rowboat glides into the cave which is many hundreds of feet long and can be explored in about 1½ hours by boat (the water varies from 10 to 12 ft. in depth). The vaulted roof of the cave is broken by an aperture by which the light filters in and giving to the water a peculiar shade — a mingling of the water's green with the deep blue of the sky. This opening in the roof is of an irregular shape and bears a remarkable resemblance in outline to the map of Corsica.

Some beautiful stalactites are found in the cave which during normal times is much visited by tourists.

Corsica (Corse in French) is the third largest island in the Mediterranean Sea. It belongs to France.

The geographical position of Bonifacio is 41° 24' N. Lat. and 9° 10' E. Long.

Hollandite First Found in India

Hollandite is an oxide of barium and manganese and is thought to be a crystalline form of psilomelane. It is silvery-gray to black in color with a hardness from 4 to 6.

The mineral was first found in the manganese mine at Kajidongri, Jhabua State, in Central India, where it occurs as rough crystals in quartz veins traversing the ore body. It was named after Dr. T. H. Holland, Director of the Geological Survey of India.

Burra Burra Mine of S. Australia

The first noteworthy copper mine opened up in South Australia was the Burra Burra, which lies 100 miles to the north of the city of Adelaide. It was opened up in September, 1845, and its discovery was made by a shepherd.

The mine was noted for its fine copper specimens. Azurite was found in deep blue crystalline nodules, native copper in fine crystals, while malachite, the most noted of all, was found in beautiful emerald-green botryoidal, banded, and stalactitic masses.

Mica and Corundum, South Africa

Mica and Corundum are the names of two little settlements in eastern Transvaal, of South Africa, and are named after important mineral deposits in their neighborhoods. Corundum is 30 miles east of Leydsdorp and Mica is about 4 miles southwest of Corundum.

The mica at Mica is a pale brown muscovite which occurs in pegmatite dikes.

The corundum at Corundum occurs in crystals in a coarsely crystalline rock.

Club and Society Notes

Los Angeles Lapidary Society

The following officers were elected unanimously for the coming year:

President—A. B. Meiklejohn

1st Vice President—Mrs. Belle Rugg

2nd Vice President—Harry Ringwald

Secretary—Mrs. Willella Gunderson

Treasurer—Thos. A. Daniels

Historian—Leland Quick

Our fourth annual show at the L. A. Museum continues to draw many visitors. In the first two opening days, 10,000 persons saw this excellent display of all phases of the lapidary art. Over 70 cases are on display. So keen was the competition that the judges had to take two days in deciding the merits of the displays.

The judges of the larger displays were Harry Odell, of the Flathead Museum, Rollins, Montana, A. L. Jarvis, Watsonville, California, and Allan Branham, Lander, Wyoming.

The judges of the single stone exhibits were Robert M. Shipley, Jas. G. Donovan, Jr., and Fred Cannon, all of Los Angeles. All the judges are expert in the lapidary art and their decisions were well received.

The exhibit will continue to July 1 and we expect that it will be seen by 30,000 people. The museum officials are so pleased that they offered to house our show each year and make this one of their yearly attractions.

CHAS. G. SCHWEITZER

5933 Miramonte Boulevard

Los Angeles 1, California

Boston Mineral Club

Dr. Frederick H. Pough, of the American Museum of Natural History, New York City, was the speaker at the June 5, 1945, meeting of the Society. The subject of Dr. Pough's talk was "Brazilian Mineral Localities", illustrated with kodachrome slides and mineral specimens.

The Club meets at the New England Museum of Natural History, Boston, Mass.

East Bay Mineral Society

At the June 7, 1945, meeting of the Society, Walter Bradley, State Mineralogist, was the speaker whose subject was "Commercial Minerals of California".

A big chicken dinner was held by the Society on June 23rd.

The Society meets at the Lincoln School, Oakland, Calif.

Paterson Mineralogical Society

The 5th meeting of the Society was held on May 10th at the Paterson Museum, Paterson, N. J. The subject of the meeting was a discussion on "How to collect minerals and what to collect". The Curator of the Museum, Mr. William C. Caspersen, led the discussion.

Bellows Falls Mineral Club

A mineral club has been founded in Bellows Falls, Vt., all as a result of a summer visit of Mr. H. Loren Mitchell, of the Los Angeles Lapidary Society. Mr. Mitchell, while visiting, asked about minerals found here, and in looking over the situation he re-aroused my interest and upon inquiry we found there were a number like us that were mildly interested, and all that we apparently needed was a closer association.

Soon we had a nucleus for our club. We had a great deal of help from local individuals and local businesses. The local bank donated the use of their window, and we put in a display that created a great deal of interest. It was made up of minerals almost entirely from Vermont and New Hampshire.

The local school board was approached and they very quickly caught the idea. The science department of the local high school was put at our disposal and the club was off to a good start. In working out the organization end of it, we had a copy of *Zodiac's* very ably written "How to collect minerals" and found it to have been written for just such an occasion; it was grand to have all the details worked out for you.

The Club meets the last Friday of each month in the high school at 8:00 p.m. At the 2nd meeting the following officers were elected:

President—Dr. M. E. Humphreys

Vice-President—John Robinson

Secretary-Treasurer—Mrs. Harry Burton

As one of the requirements of membership, each new member has 30 days in which to bring in a display case of 10 minerals correctly marked. This furnished a very colorful display at the last meeting as there were displays of gem minerals, metallic and non-metallic minerals (both local and foreign), and fluorescents.

Dr. M. E. Humphreys, Pres.

Mineralogical Society of Southern California

The annual meeting of the Society was held on June 10, 1945. The most interesting part of the meeting were competitive exhibits by members and many prizes were awarded. Several dealers had minerals for sale.

The Society meets at the Public Library, Pasadena, Calif.

Mineralogical Society of District of Columbia

The last meeting of the season was held by the Society on June 15, 1945. The speaker was Dr. Lucius C. Clark, whose subject was "An amateur mineral collector".

On June 17th the Society held a field trip to the Great Fall, Md., gold field.

The Society meets at the U. S. National Museum, Washington, D. C.

Northern California Mineral Society

The following activities of the Society took place during June, 1945:

June 1st—Business meeting.

June 13th—Micro-mount evening.

June 17th—Field trip to the beach.

June 20th—General meeting at the Public Library, San Francisco, Calif.

Robert C. Deidrick, President of the East Bay Mineral Society was the speaker whose subject was "How to collect minerals and display them".

June 23rd—Participate with the East Bay Mineral Society — dinner and mineral contest.

June 29th—Laboratory night.

Gila Mineral Society

Initial meeting at Miami, Arizona, in the Y. M. C. A., April 12, 1945.

Annual meeting for election of officers in December.

Chairman: Mr. Edwin Smith

Vice Chairman: Mr. B. H. McLeod

Secretary: Mrs. Beatrice Monteith

Prescott Mineral Society

According to radio announcements the proposed society was to have its 1st meeting in Prescott, Ariz., May 24th. Previous to this announcement there had been a fair amount of publicity in Prescott papers.

Leaders in the enterprise are Prof. Alvin A. Hanson, instructor in arts and crafts at the Prescott High School and Mrs. Bertha E. Schell (a member of the Mineralogical Society of Arizona) who is a cattle rancher in the Santa Maria mountains and has mining property known as Camp Arrowhead. She had mined quite a bit but more recently became interested in minerals and has been supplying the cutters with very fine agate, jasper, prase, etc. from her area.

The organization was proposed before the war by Harrie B. Stewart but was delayed when Stewart was called into service. Stewart, a prisoner of War of the Japanese, lost his life when a ship on which he was being moved was sunk.

Pacific Mineral Society

At the June 19, 1945, meeting of the Society, a motion picture (with sound), "Arizona — its mineral resources and scenic wonders" was shown and was the main feature.

The Society meets at the Asbury Apt. Hotel, in Los Angeles, Calif.

New Jersey Mineralogical Society

The annual business meeting of the Society was held on June 5, 1945. This was a most important meeting and many members were present.

The Society meets at the Public Library, Plainfield, N. J.

Southwest Mineralogists

The Southwest Mineralogists have elected the following new officers for the year 1945-46:

President—Dorothy C. Craig

Vice-President—Kenneth Dartt

Treasurer—George Schwarz

Recording-Secretary—Herbert Collins

Corresponding-Secretary—Marie Stager

Board of Directors consists of above officers and Harold Eales, Leo Cotton, Sam Boase.

Business and Social meeting, 1st Friday of each month. Educational meeting 3rd Friday of each month. Study sessions on the 2nd and 4th Friday will be discontinued through vacation months of June, July, August. Instead of these sessions Harold Eales will give a short talk at each business meeting on the mineral of the month. There will also be a short talk on the gem of the month. Visitors are welcome at all meetings. The meetings are held at Harvard Playground, Los Angeles, Calif.

Marie Stager

Corresponding Secretary

Gem and Mineral Section of the Buffalo Society of Natural Sciences

On May 23, 1945, we found in Buffalo, N. Y., a long needed gem and mineral club. The club grew out of classes formed last fall at the Museum in gem polishing and we now have a very enthusiastic nucleus. It will be known as the Gem and Mineral Section of the Buffalo Society of Natural Sciences. The officers elected at the meeting were:

President—Thomas G. Munroe

Vice-President—Edward L. Brady, II

Secretary—Mrs. Milford Grote

Treasurer—Walter A. Anderson

Directors—Charles Dalfgard

Charles A. Runfor

During the summer informal meetings will be held but in the fall we will have meetings the first and third Wednesday evenings of each month.

E. L. Brady, II

Colorado Mineral Society

Two field trips of the Society were scheduled on June 10, 1945, to Hilltop and Castlewood, Colo., for agatized wood; on July 22nd to Devil's Head, Colo., for smoky quartz, amazonstone, fluorite, and topaz.

The Society meets at the Museum of Natural History, Denver, Colo.

Marquette Geologists Association

A regular meeting of the Society was held on June 2, 1945, at which Dr. Ball continued his easy lessons in geology.

On June 17th, the Association held a field trip to the Badlands of Illinois where beautiful fossil ferns of the Pennsylvania period were collected at the Mazon Creek strip mines (coal). The President, Steve Norvell, was in charge of the trip.

The Association meets at the Academy of Sciences, Chicago, Ill.

... With Our Dealers ...

A new advertiser this month is the Keweenaw Agate Shop, located in the famed copper country of Upper Michigan. Of course this firm's specialty is minerals from its famous area.

The Hermosa Gem & Mineral Shop, of Durango, Colo., have in stock a nice assortment of small slabs that would make beautiful cabochons. Amateur cutters should order a supply of these slabs!

The Desert Rat's Nest, of E. Pasadena, Calif., have some interesting items in stock—perhaps you are in need of some of them?

A cutters special is featured this month by Roberts & Stevens, of Monterey Park, Calif.

Another new advertiser this month is Harold D. Maryott, of Miami, Ariz., who features turquoise and chrysocolla jewelry in wholesale amounts only.

The H. E. Powell Co., of Little Rock, Ark., are conducting a quartz crystal sale for July only. It expires August 1st, so rush your orders!

Some interesting Maine quartz and other choice items are in the stock of Ward's Natural Science Est., of Rochester, N. Y. This firm is also in the market for Paterson, N. J., minerals. Can you supply some?

The Wiener Mineral Co., of Tucson, Ariz., have another list of choice mineral specimens—mostly from Arizona.

Want some Mexican turquoise? James W. Riley, of Springfield, Ohio, has it!

Still another new advertiser this month is W. C. Goetz, of Mansfield, Ohio, who is selling fine rare gems from a private collection.

R. L. Taylor, of Battle Mountain, Nev., is with us again featuring a number of attractive items from his stock.

The National Mineral Supplies, of Kenmore, Wash., have some attractive fluorescent minerals in stock.

The Western Mineral Exchange, of Seattle, Wash., claim to have the largest stock of minerals west of the Mississippi River. They have been in business 10 years and have purchased and collected huge quantities of fine material.

Schortmann's Minerals, of Easthampton, Mass., continue their list of attractive mineral specimens (one of a kind only) that are so appealing to our readers.

A rare offer is offered collectors by the Ozark Biological Laboratories, of Hot Springs National Park, Ark. Better investigate it!

Cpl. Walter H. Printz, of Hanford, Calif., has some selected flawless cabochon material. Need any for your cutting stock?

A. L. Jarvis, of Watsonville, Calif., lists a number of attractive minerals (one only of each), chiefly from Arizona and Illinois. You better examine the list!

Jno. B. Litsey, of Dallas, Texas, has acquired a large stock of beautiful cabochons from many localities. He may have just the things you need!

The Colorado Gem Co., of Bayfield, Colo., report they have found the best plume agate imaginable! The stock won't last long once our readers hear of it!

Hatfield Goudey, of Yerington, Nev., is continuing his list of excellent specimens with a number of new additions. Why not add some of them to your collection?

Still another firm to make its first appearance in *Rocks and Minerals* is Alaskan Mineral Sales, of Anchorage, Alaska. George D. Hough is the manager and he reports that a large stock of fine Alaskan minerals have been acquired to intrigue our many readers.

Warner & Grieger, of Pasadena, Calif., report they are so swamped with orders that they are forced to drop one of their page ads. It pays to advertise in *Rocks and Minerals*.

The Vreeland Manufacturing Co., of Portland, Ore., report that they are getting very excellent results from their advertising in *Rocks and Minerals*. This only goes to prove that when dealers have good items for mineral collectors they should advertise them in *Rocks and Minerals*.

Note the new address of B. Lowe, of St. Louis, Mo. This dealer specializes in gems.

The West Coast Mineral Co., of La Habra, Calif., announce something different as their offering this month. Better look the ad up to see what it is!

Wilfred C. Eyles, of Bayfield, Colo., announces his new Streamliner Diamond Saw Machine which will be placed on the market in the near future (when government regulations permit). It is a dandy machine!

Mrs. Kathleen Kitchell, daughter of Frank Duncan, of Terlingua, Texas, is again on the sick list and this time she is very sick. Will all readers who send in orders be patient if they are slow in being filled. Mr. Duncan is doing his best.

Rings and rough gems — a nice assortment. If interested see the ad of E. A. Baust, of Eureka, Calif.

Just as we were going to press, another new advertiser was added to *Rocks and Minerals*. It is the Golden State Mineral Co., of El Monte, Calif. This firm is an importer and exporter of fine mineral specimens.

Axinite First Found in Germany

Axinite is a boro-silicate of aluminum and calcium with varying amounts of iron and manganese. Its common color is brown but it also occurs in violet, grayish, and yellow colors. Large transparent crystals have been cut into gems. Axinite was first found at Thum, near Ehrenfriedersdorf, in Saxony, Germany, over 100 years ago. The mineral received its name, axinite, due to the form of its crystals, very flat and oblique rhombs — so flattened at times that some of its edges are thin and sharp, like the cutting edge of an axe. It has also been called thumite or thumerstone, after the locality.

GOLDEN STATE MINERAL CO.

Importer and Exporter of
Fine Specimens
P. O. BOX 336
EL MONTE, CALIF.

Spa, Belgium

Spa is a small city in eastern Belgium situated at an elevation of about 1,000 ft. above sea level and at the junction of the Wayai or Spa and the Picherotte Rivers. This, the original and genuine "Spa", is the oldest European watering-place and has been known since the 16th century. The mineral springs of this city have been visited by thousands every year for centuries—kings, queens, and other notables were frequent visitors. No doubt many American soldiers stationed in Belgium will visit Spa before returning home.

The word "Spa", given to mineral springs in many parts of the world, originated from the name of this little city located in a beautiful valley in about the center of Liege Province.

Finest Sperrylite Found in South Africa

Sperrylite is a rare tin-white platinum arsenide which is known from only a few localities throughout the world. It was first found in the Vermillion gold mine, Algona district, of southeastern Ontario Province of southeastern Canada.

The world's finest crystals of sperrylite, however, are found on the farm Tweefontein No. 1033 in the Potgietersrust district, about 25 miles southwest of Pietersburg in northern Transvaal. The sperrylite occurs in gabbro.

FERN LEAF FOSSILS

From Wilmington, Ill.

Selling out at from 10c to \$1.00 each.
Postage extra

MRS. FRANCES LADD

10,000 Carpenter St. Chicago 43, Ill.

The National Amateur Mineralogist

A non-technical magazine for the geologist, gem and mineral collector, lapidary, metallic and the non-metallic interests.

\$2.00 a year—Sample copy 20c

National Amateur Mineralogist Publishing Co.
322 Madison Street
Seattle, Wash.

s
n
0
f
e
n
7
r
t
3
l
7
e

en